ORB Report
Wednesday 2003 May 21

Monte Carlo Production

- Currently using P13.08 and storing DØGStar output
- Throughput better over the last 2 weeks
  - Farms have generated ~600,000 events/week
  - D0reco is 100 Mb smaller (swap) & faster
    - But high energy jets or top events take longer than say b events
- Waiting for P14.02 certification (few days)
- TATA is shipping tapes here to store files in SAM - but not successful yet
  - Therefore, they are no longer "swallowing" MC requests
- Jet Energy Scale Request has jumped to front of queue
  - They were asked to justify their numbers at the ORB Mtg
  - About half of their events had already been produced in QCD rquest
  - Need sample of Zee events with CellNN information
    - Not done by default because event size is larger
  - Lessons learned - AGAIN - JES, B-id, etc. need to discuss their needs in concert with Physics Groups to encourage overlap

MC Production Status and Requests

MC Request Summary

Group	Weight	Request Total	Processed Events	Weighted Events	Next Job
algo	1	208000	208000	208000	0
bphysics	1	800000	300000	300000	6253
dzero	1	670000	610000	610000	6568
heavy flavour id	1	990000	630000	630000	0
higgs	1	1195000	890000	890000	6283
jes	5	795000	400000	80000	6773
np	1	385000	375000	375000	6649
qcd	1	500000	500000	500000	0
top	1	363000	363000	363000	0
higgs sensitivity	1	240000	230000	230000	6880

The Next Request to be processed is Request ID = 6773

Updated Thu May 22 20:30:24 CDT 2003

D0 at Work → MC Production → Requests

http://www-d0.fnal.gov/computing/mcprod/request_details/Request.html

ClueD0 & CAB

- New processors need Redhat (RH) 9
  - RH 9 needs gcc 3.2 complier
  - P14 uses KAI - not available for RH 9
- Many Fermilab lib not available for gcc3.2
  - Can't do program dev.under RH 9
  - Can use executables linked under RH 7
- Cluster of new PCs and Admin PCs use RH 9
- ORB asks that all nodes not be converted to RH9 until analyses for summer conferences are completed
- Replace bad power strips (safety problem)
  - Will take CAB down for 1day
    - to fix as soon as hardware available.
- New SAM DataBase Server
  - Needed for SAM schema migration (4 month project)
  - 2 days down time for CAB no sooner than June 24
    - (2 weeks test hardware; vacation of experts)

Reconstruction

- p13.06.01 still in production
- p14.02 went on farms May 16 in test mode
  - Full production mode expected in a few days
- Due to higher instantaneous luminosities of recent, the farm capabilities have fallen from 15 to 10 Million Events/week
  - Multiple interactions, higher occupancies, more tracks
  - Puts further constraint on reprocessing capabilities

Initial Lumi (E31)	Store	Start Time	End Time
NEW 4.25	2538	2003 May 12 02:06	2003 May 12 20:05
NEW 4.23	2555	2003 May 17 14:57	2003 May 18 07:58
NEW 4.21	2549	2003 May 15 14:06	2003 May 16 08:04
NEW 4.09	2540	2003 May 13 00:56	2003 May 13 19:30
NEW 4.07	2551	2003 May 16 13:46	2003 May 17 07:59
4.03	2502	2003 May 02 00:04	2003 May 02 18:13
3.98	2523	2003 May 08 13:26	2003 May 08 23:29
3.97	2529	2003 May 09 09:09	2003 May 09 22:30
3.95	2511	2003 May 06 10:26	2003 May 06 15:25
3.95	2328	2003 Mar 20 08:47	2003 Mar 21 04:10
3.91	2318	2003 Mar 16 08:10	2003 Mar 16 09:18
3.90	2505	2003 May 03 22:44	2003 May 04 14:26
NEW 3.87	2546	2003 May 14 16:42	2003 May 15 02:30
3.77	2503	2003 May 03 00:30	2003 May 03 14:23
3.76	2521	2003 May 07 15:55	2003 May 08 09:10
3.67	2447	2003 Apr 21 14:07	2003 Apr 22 08:00
3.63	2509	2003 May 05 13:20	2003 May 06 05:44
3.62	2323	2003 Mar 18 05:03	2003 Mar 18 16:42
3.61	2426	2003 Apr 14 11:55	2003 Apr 14 13:48
3.60	2507	2003 May 04 17:46	2003 May 05 10:46
3.54	1953	2002 Nov 08 22:15	2002 Nov 09 20:32

15 of 21 stores with highest initial luminosity have been in May, including top nine

Reprocessing

- A strategy for reprocessing data is not in place yet
  - P14.02 is too slow - traced to memory allocation fragmentation problem
    - Need memory clean up after every event
  - New allocator implementation from Scott Snyder going into p14.03
    - Preliminary tests show a speed up of 30% - comparable to p13.06.01
    - Second build of P14.03 began on 22 May (Thursday) - at least two weeks away from going to farm production
  - To use p14.03 for reprocessing, code is needed to deal with Calorimeter hardware problems in Feb-Apr 2003
    - Email from Gregorio Bernardi (Chair of Calorimeter Algorithms Task Force) states that code fix from Jan Stark was passed to Harry on May 21. Code to fix at the TMB level should be ready within a week.
- For more details see my Current Events Page:

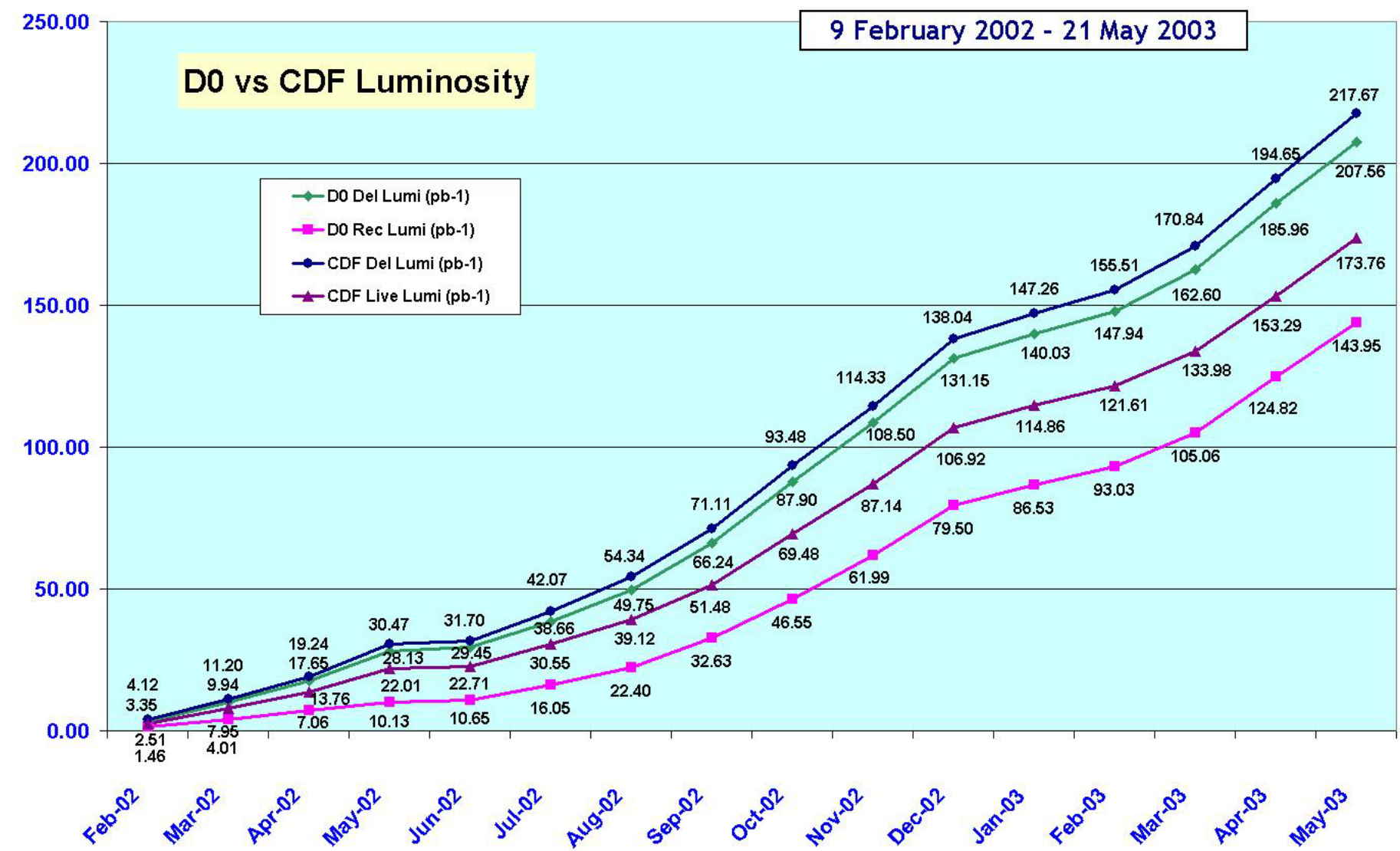
D0 at Work → Run IIa Operations → Current Events

http://www-d0.fnal.gov/runcoor/d0_private/operations/current_events.html

  - Includes emails and presentations from Gregorio, Greg Landsberg, Nirmalya Parua, Bob Kehoe, etc.

Random Notes

- Beaune Workshop Agenda now on web page
  - About 10 PCs with network access at Palais de Congres
  - Also installing wireless for laptop users
- Reco Status Page D0 at Work → Algorithms → P14 RECO Status
  http://www-d0.fnal.gov/computing/algorithms/status/p14.html
  - Frequently updated - lots of useful details on problems, fixes, changes, etc.
- In an effort to improve data taking efficiency, the "run_type" field is no longer filled in the Run Query Database
  - Manual entry made by DAQ Shifters - not 100% reliable
  - Change took effect with Run 176929 (May 14th)
  - Unfortunately, farms had been selecting on raw data in SAM with:
    - 'onl_run_type Physics' and 'physical_datastream_name all'
  - I should have announced the change more widely, but there was a positive consequence as we uncovered an operational error
    - Farms should use instead 'trig_config_type physics' which is set in the Trigger Configuration List
    - Missed 35 physics runs from 26 October 2002 through 26 April 2003 because DAQ Shifter had toggled the "Test" radio button instead of "Physics"
    - Mike Diesburg is going back to look for these overlooked runs



CDF Good Lumi = 141.4 pb^{-1} (falls to 111.7 pb^{-1} w/Silicon requirement)

Excluding pre-19 Apr & 18 Jun-15 Aug 2002 D0 Physics Lumi = 130.4 pb^{-1}

Unfortunately, we have no good estimate of bad run (or LBN) fraction